# Did the Seyyids descend from the genealogical line of Prophet Muhammad, and the Prophet, like the Jews, from Abraham?

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### Summary

Consideration of a series of 37-marker haplotypes of seyids (according to concepts of Islam - direct descendants of genealogical line of Prophet Muhammad) haplogroup J1 and J1e, Arabs haplogroup J1e and Jews haplogroup J1e has shown the following:

1) third of considered seyids (8 from 25 persons) have the general ancestor who lived  $1600\pm380$ ,  $1200\pm240$  and  $1300\pm260$  years ago (calculations in different variants on 25- and 37-marker haplotypes) that agrees with their origin from DNA-line of Prophet and Ali (years of their life 570-632 A.D. and 600-661 A.D., that is -rounded - between 1350 and 1440 years ago).

2) Another 11 seyids (almost half of those considered) have a common ancestor who lived somewhat earlier, at the beginning of our era (1950±380 and 1975±305 years ago on 25- and 37-marker haplotypes), but it was a completely different ancestor, his haplotype differed from the proposed haplotype of Muhammad by 4 and 9 mutations on 25- and 37-marker haplotypes. This places the common ancestor of the two given seyid lineages at 2900-3000 years ago.

3) The common ancestor of the Seyid Arabs and the non-Seyid Arabs in this series lived 3000-3200 years ago.

4) The common ancestor of Jews haplogroup J1e of this sample had "modal haplotype of Cohens" and lived 3950±590 and 3800±490 years ago. These are times of biblical Abraham (we shall remind that time of biblical exodus and Egypt is dated on time of eruption of volcano Santorin 3630 years ago, in Egypt Jacob and his descendants were 210 years, and Jacob - on the Bible - grandson of Abraham).

5) The general ancestor of Seyids and Jews of haplogroup J1e lived 4775 and 4200 years ago (on 25- and 37-marker haplotypes, accordingly) that within the error of calculations does not contradict that it lived in times of bible Abraham.

6) The common ancestor of the Arabs and Jews in this random sample lived 5500 and 4700 years ago (based on 25- and 37-marker haplotypes, respectively).

The error of definition here is not less than plus or minus a thousand years, and the data do not contradict the fact that the common ancestors not only of the Seyyids, but also of the non-Seyid Arabs lived in the time of Abraham.

## Introduction

To begin with, this article is not about all seyids, nor is it about all Jews. It is known that a Jew is not necessarily a genealogy; it is a belief, a way of life, ideas about the world, often, but far from always - a look, often, but far from always - traditions. And yet, over centuries and millennia of relative religious and cultural isolation, Jews have developed their genealogical lines, and this, in our opinion, is good and right. This is the continuity of generations. And the continuity of generations is a necessary condition for a healthy self-awareness. This is not only genealogy, but also common culture and traditions.

The same applies to the Arabs. Arabs, like many Oriental people, especially honor genealogy, the connection of generations. It is unseemly for an Arab not to know his ancestors many knees deep.

There is one genealogical line that Muslims honor in particular. These are the Seyvids, or Seyids, descendants of the Prophet Muhammad (in "classical" Russian, the Gallicism Mohammed was adopted, but it has apparently become obsolete). The Prophet himself, according to the teachings of Islam, is a direct descendant of Abraham and his son Ismail, which is reflected in his full name listing all direct ancestors (the name Muhammad is here recorded as a kunya when the name mentions the name of a child, in this case Muhammad is the father of Qasim: Abu al-Qasim Muhammad ibn 'Abd Allah ibn Abd al-Muttalib ibn Hashim ibn Abd Manaf ibn Ousayvah ibn Kilab ibn Murrah ibn Ka'b ibn Luayy ibn Ghalib ibn Fihr Quraysh ibn Malik ibn An-.Nadr ibn Kinana ibn KhuzaymaMudriga ibn Ilyas ibn Mudar ibn Nizar ibn Maad ibn Adnan ibn Add ibn Humaysi ibn Salaman ibn Aus ibn Buz ibn Kamwal ibn Ubayy ibn Awwam ibn Nasheed ibn Khaza ibn Bildas ibn Yadlaf ibn Tabih ibn Jahim ibn Nahish ibn Mahi ibn Eid ibn Abkar ibn Ubayd ibn Daa ibn Hamdan ibn Sanbir ibn Yasribi ibn Yahzin ibn Yalhan ibn Ar'avi ibn Eid ibn Dishan ibn Aysar ibn Aysar ibn Dushan ibn Dushan ibn Dushan ibn Dushan ibn Dushan ibn Dushan ibn Dushan. Aysar ibn Afnad ibn Avham ibn Muksar ibn Nahis ibn Zarikh ibn Sami ibn Mazzi ibn Auda ibn Aram ibn Kidar ibn Ismail ibn Ibrahim.

There are 64 tribes in total, 23 tribes from Muhammad to Adnan and 41 tribes from Adnan to Abraham. Adnan lived around the 2nd century BCE, and is the ancestor of the Adnanite Arabs, mostly North Arab tribes to which the Seyyids belong. Most Arabs belong to the South Arabian tribes (Kahtanites).

Muhammad is the author of the Koran. More precisely, according to the teachings of Islam, the Quran was sent down to Muhammad by God through the archangel Jabrael-Gabriel. According to Muslim teaching, Islam is a logical continuation of Judaism and Christianity, and Muhammad is the last in the chain of God's great messengers: Noah - Abraham - Moses - Jesus - Muhammad.

The years of Muhammad's life are from 571/570 to 632 AD. When pronouncing Muhammad's name, Islamic teaching dictates that it should be pronounced - in Russian - "Blessings and peace be upon Him". In English, this is often replaced by the letters PBUH (Peace Be Upon Him).

According to a number of sources, Muhammad had 13 wives, including the widows of his companions, whom the Prophet married after the death of his companions in wars. Many Bedouin tribes who accepted Islam considered it an honor to give a representative of their tribe as a wife to the Prophet and to be related to him. All of Muhammad's children (except Ibrahim) were born to his first wife Khadija (Ibrahim was born to Mary, a Coptic woman), and Muhammad did not remarry before Khadija's death. But the boys died at a young age, and Muhammad's descendants are considered to be the children of his daughter Fatima, who was married to Muhammad's cousin named Ali ibn Abi Talib (*Ali ibn Abi Talib ibn Abd al-Mutallib ibn Hashim ibn Abd al-Manaf*). Fatima and Ali had two sons, Hassan and Hussein (and three daughters). It is their descendants who are called Seyyids, Sharifs, or Alids (Aliwiyun) (the latter in Shi'a). The time of Ali's life is 600 - 661.

Since Ali's father, Abu Talib, and Muhammad's father, Abd Allah ('Abd Allah), were siblings of Abd al-Muttalib, the lineage of the Seyyids goes back, according to the teachings of Islam, to Ismail and Abraham.

The direct descendants of Hassan and Hussein were 11 imams (two from Hassan and nine from Hussein). They and their descendants reigned repeatedly in Egypt, West Africa, Syria, and Spain, but were often persecuted, and many seyyids were martyred. Since then, seyyids is an honorific title among Muslims, translated as "lord," "leader," "chief." For Sunnis, seyyids are the preferred spiritual and political leaders of Muslim communities; for Shiites, they must necessarily be alids. In both directions of Islam, Sunni and Shiite, the expected Imam al-Mahdi, the 12th Imam of the Prophet's lineage, the expected leader who will change the world for the better, will be from the Alids, he is the forerunner of the second coming of Jesus Christ.

So, the chronological and semantic framework is set. Let's move on to DNA genealogy. Now it is clear why in the title of this article the origin of the Seyyids is not "from Muhammad", but from the "genealogical line" of Muhammad. For DNA genealogy, this is irrelevant. The line goes through Muhammad's grandfather.

### Seyyid DNA genealogy

In the network there is a project "Seyyidswww.familytreedna.com/public/sharifs/default.aspxThis project by the idea of the creators includes descendants of Hassan and Hussein, the direct genealogical line of the Prophet (through Ali, as described above), first of all, modern bearers of the surnames Alaoui, Allami, Amrani, Bakhadda, Cherif, Djellouli, Djilali, Hachmi, Hamdi, Hashimi, Hassani, Nettapi, Husseini, Idrissi, Jilani, Kassimi, Kettani, Mekki, Mnaouer, Msakni, Ouazzani, Quraichi, Sayid, Seghrouchni, Sharif. The November 2009 list includes 61 individuals from eight haplogroups (A, E, G, J1, J2, R1a1, R1b, T), and two

"unrelated," even though their haplogroups are J1 and J1e. Apparently, the surname Goldstein confused the organizers. Haplogroup J1 is represented most significantly - 31 people, or 53% of the "attributed". But from these J1 - 11 people have haplogroup J1e, and 16 people (of them eight "predicted", in whom haplogroup was not tested) - J1, and besides them, three more J1 (they are marked "other genera") and one J1d are recorded separately.

It is already clear that these 61 people calling themselves Seyyids cannot be descended from one common ancestor even within tens of thousands of years (since the common ancestor of these haplogroups could not have lived later), much less from Muhammad, Adnan or Abraham. Therefore we in our searches should choose more realistic and closer in time target. The most probable here is haplogroup J1, to which in this sample belong more than half of the Seyyids. On the second and third places are haplogroups E and J2 (10 and 6 people, respectively), which makes them less likely candidates for this genealogy. But also in haplogroup J1 itself, the Seyids have carriers of subgroups J1 and J1e (apparently, haplogroup J1 is simply "undertyped" to J1e). Since we do not know a priori to which subgroup Muhammad and/or Adnan, as well as Abraham could belong, we considered both subgroups, J1 and J1e, and marked the Seyyids (with index s). For DNA-genealogical analysis we took from the list only 37-marker haplotypes, of which the Seyyids had 25, and added 18 haplotypes of Arabs of haplogroup J1e.

In order to understand the relationship of the Seyyids to the Jews within the framework of DNA genealogy, namely to see if their lineages really diverged from the time of Abraham, we combined the haplotype list of 43 Seyyids and others

Arabs with haplotypes of 21 Jews of haplogroup J1e. The fact is that the majority of Cohens belong to haplogroup J1e (Hammer et al, 2009), and Cohens, according to many (which is not a fact, but an opinion or belief) lead their lineage from Aaron and further from Abraham. Moreover, according to (Klyosov, 2009; Klyosov, 2008b) DNA-genealogical lineage of Jews and non-Jews of haplogroup J1 diverges 4000±520 years ago, which can be attributed to the times of Abraham. Since Arab haplotypes in the group of non-Jews in the study (Klyosov, 2008b; Klyosov, 2009) were a minority (the rest had haplogroup J1, but were of very different territorial origin, from Europe to South America), it was of interest in this work to find out directly when the DNA-genealogical lineages of Arabs and Jews diverged.

Haplotypes of Jews of haplogroup J1e were taken from the YSearch database. A general list of haplotypes is given in the Appendix. The haplotypes



were transformed into the following tree (Fig. 1):

Figure 1. Tree of 37-marker haplotypes of Seyyid Arabs (index "s"), Arabs (index "a"), and Jews (numerical numbering) of haplogroups J1 and J1e (all Jews and part of Arabs and Seyyid Arabs). In total, there are 43 haplotypes of Arabs (25 of them Seyyids) and 21 haplotypes of Jews on the tree.

Two conclusions immediately follow from the consideration of the tree. The first conclusion is that haplotypes of Arabs and Jews mix rarely, and diverge in different parts of the tree (Arabs on the left and right, Jews at the bottom).

The second conclusion is that the Jewish line (haplotypes in the sample) is much older than the Arab line. This can be seen by how compact the Arab half is, and the Jewish half is "broken". The distance of the group from the "trunk" and "brokenness" usually indicates the antiquity of the common ancestor of a group (population).

Both the Jewish and Arab halves of the tree consist in turn of subbranches, subgroups. This is normal, it always happens and should be so. But sometimes you can see that some branches clearly stand out. In Arabs it is a small branch of eight haplotypes on the upper left (between haplotypes 34sJ1e and 28sJ1), all eight are seyids, and a wide branch of 20 haplotypes on the right, in which 11 seyids and 9 Arabs, not marked as seyids. In addition, there are several small scattered formations of two to three haplotypes, or even single haplotypes, that are not part of the Arab "family" in the 37-marker variant. Some of them are even adjacent to the Jewish haplotypes, but there are no Seyyids among them.

The haplotypes of the Jews of haplogroup J1e diverge into three groups. Two of them, as the analysis (see below) shows, have the "modal haplotype of Cohens" and approximately the same "age" (with respect to the time of life of the common ancestors of the branches), and one is the clearly ancient branch at the bottom left. The latter branch has two Arab haplotypes, which is not surprising, knowing that both Jews and Arabs were Bedouins in ancient times, and the division was based on cultural and religious concepts, not ethnic or geographical.

### The Seyyid branch

The branch of eight haplotypes on the upper left consists only of Seyid haplotypes. Only two of them have subclade J1e, the other six have haplogroup J1, but this is clearly not deep enough typing. In other words, the J1e subclade test was simply not performed on them. All eight haplotypes have 22 mutations in the 25-marker variant (marked in the list below) from the base haplotype

12 23 14 10 13 18 11 17 11 13 11 30 -- 20 8 9 11 11 26 14 20 26 12 14 16 17

Recall that the base haplotype is the one from which there are the fewest mutations and which is composed of dominant alleles. Since in of the whole series 25x8=200 markers, then the average number of mutations is = 0.11 mutations per marker.

This number is a measure of the antiquity (or "age") of a common ancestor. Even without knowing how to recalculate in years, this value - the average number of mutations per marker - is useful for comparison with other branches of the haplotype tree, or with other haplotype series. We will see this in comparisons with branches of the Jews.

To be quite correct, we will introduce an error indicator of this value. This is the inverse of the square root of the number of mutations in the

series. In this case.  $\sqrt{22} = 4.69$ , and the inverse is 0.213. That is. error in determining the number of mutations is equal to 21.3%, and we have 0.110±0.023. This means that with 95% probability the average number of mutations per marker will fall into this range, even if someone has mutations jumped "in the wrong direction", or at all did not occur in this series of markers.

For 25-marker haplotypes constant of speed of mutation is equal 0.00183 mutations on marker on generation in 25 years (Klyosov, 2008a,c). We receive, that the general ancestor of this small, but separately standing series of haplotypes lived 0.11/0.00183 = 60 generations ago. It - without taking into account correction on return mutations. Actually the correction (Klyosov, 2008a) adds in this case only four generations, and we have 64 generations before the general ancestor, that is  $1600\pm380$  years before the general ancestor. Here the error was calculated already on more difficult formula (Adamov and Klyosov, 2009), because includes and error of a constant of speed of mutation

 $\sqrt{21.3^2 + 10^2} = 23.55\%$ 

Again, with probability 95% the general ancestor of the given branch from 6 haplotypes lived in the specified time interval. It is the 5th century plus or minus four centuries.

At transition to 37-marker haplotypes a complication is observed that often makes calculations on such haplotypes problematic. In the penultimate marker (DYS442), three haplotypes out of eight have a clear anomaly - a jump of 6-7 alleles at once (highlighted), which cannot be in a simple statistical variant. Such anomalies occur, albeit quite rarely, and are inherited. Clearly, the anomalous three haplotypes are the descendants of a relatively recent ancestor, in whom such an anomaly occurred

unusual mutation, and it happened  $225\pm130$  years ago (three mutations on three 37-marker haplotypes).

- 23sJ1 12 22 14 10 13 18 11 17 11 13 11 30 -- 18 8 9 11 11 26 14 20 26 12 14 16 17 --11 10 22 22 14 15 18 17 32 36 13 10
  25sJ1 12 23 14 10 13 18 11 17 11 13 11 29 -- 20 8 9 11 11 26 14 20 26 12 14 16 17 --11 10 22 22 14 15 18 16 32 36 7 10
  27sJ1 12 23 14 10 13 18 11 17 11 13 11 30 -- 20 8 9 11 11 26 14 20 26 12 14 16 17 --11 10 22 22 14 15 18 16 32 36 7 10
  28sJ1 12 23 14 10 13 18 11 17 11 13 11 30 -- 20 8 9 12 11 26 14 20 26 12 14 16 17 --11 10 22 22 14 15 18 16 32 37 7 10
  29sJ1 12 23 14 10 13 18 11 17 11 14 11 31 -- 20 8 9 11 11 26 14 20 26 12 14 16 17 --11 10 22 22 14 15 18 16 32 37 7 10
  29sJ1 12 23 14 10 13 18 11 17 11 14 11 31 -- 20 8 9 11 11 26 14 20 26 12 14 16 17 --11 10 22 22 14 15 18 17 32 36 13 10
  33sJ1e 12 23 14 10 13 19 11 17 12 13 11 30 -- 19 8 9 9 11 11 26 14 20 27 12 14 16 17 --11 10 22 22 14 15 19 15 33 36 12 10
  34sJ1e 12 23 14 10 13 20 11 17 11 13 11 29 -- 24 8 9 9 11 11 26 14 21 27 12 14 16 17 --
- 11 10 22 22 14 15 **19** 16 32 36 12 10 39sJ1 12 23 14 10 **14** 18 11 17 11 13 11 **31** -- 20 8 9 9 11 11 11 26 14 20 26 12 14 16 **16** --. **12** 10 22 22 14 15 18 16 32 **35** 12 10

If we ignore this anomaly, the 25-marker haplotypes in the 37-marker variant (the base haplotype is shown below) would add between 11 and at most 13 mutations (highlighted above), and the time to the common ancestor of all eight haplotypes would be between  $1200\pm240$  and  $1300\pm260$  years

12 23 14 10 13 18 11 17 11 13 11 30 -- 20 8 9 11 11 26 14 20 26 12 14 16 17 -11 10 22 22 14 15 18 16 32 36 12/13 10

If all seyids originated really from Hassan and Hussein, their haplotypes would converge to the 7th century AD. More precisely - to 625th year, about 1380 years ago (Hassan was born in 624, Hussein in 627). As can be seen, the three values of the distance to the common ancestor of the Seyyid branch -  $1600\pm380$ ,  $1200\pm240$  and  $1300\pm260$  years - are consistent with the fact this branch of Seyyids really comes from the DNA line of the Prophet and Ali.

#### A mixed branch of Seyyids and Arabs

The broad branch of 20 haplotypes on the right has a base haplotype

12 23 14 **11** 13 **19** 11 17 11 13 11 30 -- **18** 8 9 11 1126 14 20 **25** 12 14 16 17 - **10** 10 22 22 14 **14 18 18** 32 35/36 11 10

It on 5 mutations differs from 25-marker base haplotype Seyids, and on 10 mutations - from 37-marker. It is - rather big distance, therefore corresponding branches stand off from each other on a tree of haplotypes. But actually it is a difference from rounded values of alleles, and the real difference makes 4 mutations on 25-marker gaplotype, and

9.9 mutations per 37-marker. It corresponds to total distance between their general ancestors 2400 and 3075 years, accordingly. To these values we still will return, and meanwhile we shall note, that all branch contains 80 mutations from the resulted base haplotype on 25-marker haplotypes, and 141 mutations on 37-marker haplotypes. It corresponds to 2400±360 and 2125±280 years, accordingly, before the general ancestor of the given wide branch.

If it were not for such a large difference between the two branches of the Seyyids and this branch, one might think that the broad branch has as its ancestor Adnan, who lived around the 2nd century BCE. This may be the case. But then the branch of the seyyids is not from Ali. Because Adnan should be the ancestor of Ali, with a distance between them of about 800-900 years. Here the difference is about 2200-2400 years. So when lived the general ancestor of branch of Seyyids and wide branch of Arabs and Seyyids? On 25-marker haplotype - (1600+2400+2400)/2 = 3200 years ago. On 37-marker haplotypes - (1200+2125+3075)/2 = 3200 years ago. This is a thousand years earlier than the time of Adnan's life.

Probably, the common ancestor is the Arabs - not the seyids of this branch. Let us try to consider only the Seyyids.

11 Seyid haplotypes on the broad branch have the following base haplotype:

12 23 14 10 13 **19** 11 17 11 13 11 30 -- **19** 8 9 11 1126 14 20 **25** 12 14 16 17 -**10** 10 22 22 14 **14 19 18** 32 36 **11** 10

and all branch contains 36 mutations in 25-marker format and 72 mutations in 37marker format. It gives respectively  $1950\pm380$  and  $1975\pm305$  years before the general ancestor, the beginning of our era. The average number of mutations per marker for the 25-marker haplotypes here is  $36/11/25 = 0.130\pm0.022$ . As can be seen, this is slightly higher than for the young Seyid branch ( $0.110\pm0.023$ , see above). Moreover, this difference may fall within the error of the calculations, and the common ancestor of the eight seiids (the branch on the tree on the upper left) and 11 seiids (the branch on the right) could have lived at the same time. But they were completely different ancestors. Although the Arab (not Seyyid) haplotypes contributed the bulk of the mutations to this series, , both branches, the Seyyid (8 haplotypes) and this branch (11 haplotypes), are quite far apart, by 3.66 and 8.89 mutations on the 25- and 37-marker haplotypes. This places their common ancestor at 2900 and 3000 years ago, respectively. This again cannot be Andan, and the data indicates that the common ancestor of the Arabs and Seyids of this series lived 3000- 3200 years ago.

In other words, we have two "parallel" genealogical lines of the Seyids, which began approximately at the same time, in the first half of the first millennium AD, in the same haplogroup J1e, but from two completely different people. Their common ancestor lived 3000-3200 years ago.

As will be shown below, the future Jewish and future Arab lineages (in this sample) split as early as 9,000 years ago, and the Jews and Arabs diverged their lineages about 4,000 years ago, or between 4,000 and 5,000 years ago.

#### The branches of the Jews

#### A branch of the direct descendants of the Bedouins

In Jews, the branch on the bottom left in Fig. 1, of 11 haplotypes, two of which belong to Arabs (not Seyyids), is clearly distinguished. The base haplotype of this branch

### 12 23 14 10 14 17 11 16 11 13 11 29 -- 17 8 9 11 11 26 14 20 26 13 14 15 17 - 11 10 19 22 15 14 18 18 32 37 12 10

From it in all branch 119 mutations on 25-marker gaplotype, and 208 mutations on 37-marker gaplotype, that gives  $0.433\pm0.040$  and  $0.511\pm0.035$  mutations on marker, and  $7725\pm1050$  and  $6625\pm810$  years before the general ancestor, accordingly. 7 thousand years ago neither Jews, nor Arabs as such were not, there were nomads - Beduins. These are the direct roots of this branch. Not surprisingly, there are both modern Arabs and Jews in this branch.

Within this common Bedouin branch, a recent subbranch of four haplotypes (1, 3, 6, and 7) stands out, with a base haplotype of

12 25 14 10 16 16 11 16 10 13 13 29 -- 17 8 9 11 11 26 14 20 28 13 14 14 17 -11 9 19 22 17 14 18 17/18 31/32 37/38 12 11 and 6 mutations on the 25-marker haplotype and 16 mutations on the 37-marker haplotype, which places their common ancestor  $850\pm360$  and  $1175\pm320$  years ago. This base haplotype has very characteristic mutations that are completely uncharacteristic of Jews. This branch was identified earlier (Klyosov, 2008a) and dated to  $1600\pm200$  years ago (base haplotype #7 in the list, page 219 of the cited reference). There it had the form

12 25 14 10 16 18 11 16 10 13 13 29 -- 17 8 9 11 11 26 14 20 28 13 14 14 17

Except for one double mutation, these haplotypes are identical at 25 markers. It is now clear why this is an unusual haplotype - it traces back to the Bedouins from ancient times, and the last haplotype given here is the result of "genetic drift".

#### Two branches of the "modal haplotype of the Cohens"

Figure 1 shows two completely different branches of Jews, both at the bottom of the tree, of six and seven haplotypes. This divergence is especially noticeable if these 13 haplotypes are placed on a separate tree (Fig. 2).

Since the "weights" of both branches are close, it is possible to calculate the lifetime of their common ancestor on all haplotypes at once, using the base haplotype "averaged" on both branches, presumably ancestral for the whole tree:

12 23 14 10 13 17 11 16 11 13 11 30 -- 17 8 9 11 11 26 14 21 26 12 14 16 17 -- 11 10 22 22 15 14 20 17 31 36 12 10

This is by the "scientific" 6-marker haplotype (DYS 19, 388, 390, 391, 392, 393) - the "modal Cohen haplotype" (MHC):

14-16-23-10-11-12

It draws attention that on these six markers the number of mutations among all 13 haplotypes is minimal, and is equal to 1, 1, 0, 1, 0, 0. That is this MHC is very stable. On all 13 haplotypes from the given basic haplotype there are 81 mutations on 25 markers, and 154 mutations on 37 markers ( $0.249\pm0.028$  and  $0.320\pm0.026$  mutations on a marker), that gives  $3950\pm590$  years and  $3800\pm490$  years before the general ancestor, respectively. Earlier it was shown (Klyosov, 2008b; Klyosov, 2008b) on a large series of 37- and 67-marker haplotypes, that the common ancestor of Jews and non-Jews with MHC lived  $4000\pm520$  years ago, that within the error coincides with the values obtained here.



Figure 2. Tree of 37-marker haplotypes of Jews ("modal haplotype of Cohens") of haplogroup J1e. There are 13 haplotypes on the tree.

If we consider both branches separately, their base haplotypes for the right and left branches are as follows:

12 23 14 10 13 15 11 16 12 13 11 30 -- 17 8 9 11 11 26 14 21 26 12 14 16 17 -11 10 22 22 15 14 20 18 31 35 13 10

12 23 14 10 13 17 11 16 11 13 11 30 -- 18 8 9 10 11 24 14 20 26 11 14 16 17 -10 10 22 22 15 13 18 17 32 36 12 10

They diverge - in the rounded version - by 9 mutations at the first 25 markers, and by 17 mutations at the 37 markers. At more exact account, without rounding alleles, this difference makes 7.53 and 16.09 mutations, accordingly, that gives 4925 and 5450 total distance between general ancestors of two branches for 25-markers and 37-markers haplotype.

All six left branch haplotypes contain 20 and 31 mutations in their 25- and 37marker haplotypes, yielding 1975±480 and 1525±310 years to a common ancestor, respectively.

All seven right branch haplotypes contain 22 and 47 mutations in their 25- and 37marker haplotypes, yielding 1850±440 and 2025±360 years to a common ancestor.

As can be seen, both lines of Jews have the "modal haplotype of the Kohen" and both descend from common ancestors who lived at the beginning of our era, at the time of the destruction of the Jerusalem temple and the beginning of the Diaspora. But both common ancestors are descendants of an even older ancestor who lived (4925+1975+1850)/2= 4375 years ago or (5450+1525+2025+2025)/2= 4500 years ago

ago. It within the error corresponds to values 3950±590 and 3800±490 years ago, calculated on all tree. The last value is more exact, as it does not include comparisons of base haplotypes and corresponding additional calculations of mutational distance which have additional error.

So, the common ancestor of the Jews in this random sample lived about 4,000 years ago, in the time of the biblical Abraham. This has been shown before, so the data from this sample only confirms this conclusion.

If we compare the base haplotype of the Jews with the base haplotype of the small Bedouin branch, they have 16 mutations on 25-markers. This is a very long distance, corresponding to a cumulative 13200 years to a common ancestor. This places the common ancestor of the Jews of the Bedouin branch and branch

"Abraham" back 9,100 years to the time of the early inhabitants of Mesopotamia and the Arabian Peninsula, five thousand years before the time of Abraham. That's where the small branch of the Jews on the tree on the right stretches from. They have nothing to do with Abraham. They are the Bedouins who adopted the religion of the Jews and became Jews. They are the "mixed-race people" who joined the twelve tribes of Israel, according to the Bible.

### The common ancestor of the Jews and the Seyyid Arabs

Let's compare the basic haplotypes of the Seyyid Arabs

12 23 14 10 13 18 11 17 11 13 11 30 -- 20 8 9 11 11 26 14 20 26 12 14 16 17 -11 10 22 22 14 15 18 16 32 36 12/13 10

and Jews

12 23 14 10 13 **17** 11 **16** 11 13 11 30 -- **17** 8 9 11 1126 14 **21** 26 12 14 16 17 -11 10 22 22 **15 14 20 17 31** 36 12 10

The common ancestor of the first lived  $1600\pm380$  years ago (according to 25-marker haplotypes), and  $1200\pm240$  and  $1300\pm260$  years ago (according to 37-marker haplotypes). The common ancestor of the latter lived  $3950\pm590$  years ago or  $3800\pm490$  years ago, respectively. There are 6/25 and 12/37 mutations between their base haplotypes in the rounded version, and 6.30 and 10.67 in the more accurate count. This places the common ancestor of the Seyids and Hebrews at 4775 and 4200 years ago by the 25- and 37-marker haplotypes, which again does not contradict the time of the biblical Abraham.

#### The common ancestor of Jews and Arabs

Finally, let us compare the base haplotype of the broad branch of the Arabs and Seyids on the right side of Fig. 1

12 23 14 11 13 19 11 17 11 13 11 30 -- 18 8 9 11 11 26 14 20 25 12 14 16 17 -10 10 22 22 14 14 18 18 32 35/36 11 10

with the base haplotype of the Jews

12 23 14 **10** 13 **17** 11 **16** 11 13 11 30 -- **17** 8 9 11 1126 14 **21 26** 12 14 16 17 - **11** 10 22 22 **15** 14 **20 17 31** 36 **12** 10

They differ by 7 and 14 mutations on the 25- and 37-marker haplotypes, respectively, in the rounded version. At more accurate calculation there 7.24 and 11.12 mutations that corresponds to 4675 and 3550 years of total distance between their common ancestors. As the general ancestors of corresponding branches lived 2400±360 and 2125±280 years ago, accordingly, at calculations on 25 - and 37-marker haplotype at Arabs, and 3950±590 years and 3800±490 years ago at Jews, then AND the general ancestors lived 5500 and 4700 years ago on 25- and 37-marker haplotype, accordingly. The error of definition here is not less than plus or minus a thousand years, and the data do not contradict the fact that the common ancestors not only of Seyids, but also of non-Seyid Arabs lived in the time of Abraham.

#### APPENDIX

#### Haplotype list. For Arabs, the source http://www.familytreedna.com/public/sharifs/default.aspx For Jews (digital haplotype numbering) - YSearch source

- 22sJ1 12 22 14 10 13 18 11 17 11 13 11 30 -- 18 8 9 11 11 26 14 20 26 12 14 16 17 -- 11 10 22 22 14 15 18 17 32 36 13 10
- 23sJ1 12 22 14 10 13 18 11 17 11 13 11 30 -- 18 8 9 11 11 26 14 20 26 12 14 16 17 -- 11 10 22 22 14 15 18 17 32 36 13 10
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# Literature

Adamov, D.S. and Klyosov, A.A. (2009) Determination of the age of populations by STR haplotypes of the Y-chromosome. Part 2. Errors of calculations. Bulletin of the Russian Academy of DNA-Genealogy (ISSN 1942-7484), Vol. 2,№ 1, 93-103.

Klyosov, A.A. (2008a) Guide to calculation of times to the common ancestor of Ychromosome haplotypes and the table of return mutations. Bulletin of the Russian Academy of DNA-Genealogy (ISSN 1942-7484), Vol. 1, No. 5, 812-835.

Klyosov, A.A. (2008b) Enigmas of the "modal haplotype of the Cohens". Bulletin of the Russian Academy of DNA-Genealogy (ISSN 1942-7484), Vol. 1, No. 3, 490-513.

Klyosov, A.A. (2008c) Basic provisions of DNA-Genealogy (chromosome Y), mutation rates, their calibration and examples of calculations. Bulletin of the Russian Academy of DNA-Genealogy (ISSN 1942-7484), Vol. 1, No. 2, 252-348.

Hammer, M.F., Behar, D.M., Karafet, T.M., Mendez, F.L., Hallmark, B., Erez, T., Zhivotovsky, L.A., Rosset, S., Skorecki, K. (2009a) Extended Y chromosome haplotypes resolve multiple and unique lineages of the Jewish priesthood. Hum. Genet., 126, No. 5, 707-717.

Klyosov, AA. (2008a) Origin of the Jews via DNA genealogy. Proceedings of the Russian Academy of DNA Genealogy (ISSN 1942-7484), 1, No. 1, 54-232. http://www.lulu.com/content/2677603

Klyosov, A.A. (2008b) DNA Genealogy, Mutation Rates, and Some Historical Evidences Written in Y-Chromosome. Nature Precedings, *hdl:10101/npre.2008.2733.1*, *http://precedings.nature.com/documents/2733/version/1* 

Klyosov, A.A. (2009) DNA Genealogy, mutation rates, and some historical evidences written in Y-chromosome. I. Basic principles and the method. J. Genetic Genealogy, 5, 186-216. http://www.jogg.info/52/files/Klyosov1.pdf